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ABSTRACT

A study explored the relationship between high school seniors' attitudes about borrowing for education and the post-secondary education choices they make. With the 1982 "High School and Beyond" data the study used a sample of 9,625 students who were high school seniors in the spring of 1982 to do a descriptive analysis to compare those who were willing to borrow with those who were not and to do a relational analysis to see if attitudes about borrowing were significant after controlling other variables. Results indicated that those willing to borrow were significantly more likely to attend college than those who said that they would delay entrance, attend a less expensive school or get a job. This held true even after controlling for other variables such as educational aspirations, tested achievement, influence from others, and socioeconomic status. This finding supports the contention that students who are reluctant to borrow are less likely to enroll in postsecondary education. Among students who did enroll in college, willingness to borrow was significantly associated with attendance at a four-year college rather than a two-year college and with full-time rather than part-time attendance. Includes 14 tables, 1 figure and 73 references. (JB)

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Attitudes Toward Borrowing and Participation in Post-secondary Education

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ASSOCIATION FOR THE STUDY OF HIGHER EDUCATION

This paper was presented at the annual meeting of the Association for the Study of Higher Education held at the Park Plaza Hotel & Towers in Boston, Massachusetts, October 31-November 3, 1991. This paper was reviewed by ASHE and was judged to be of high quality and of interest to others concerned with the research of higher education. It has therefore been selected to be included in the ERIC collection of ASHE conference papers.

ABSTRACT

Attitudes Toward Borrowing and

Participation in Post-Secondary Education

High school seniors who said they would choose to borrow, when asked what they would do if college costs were $1500 more than they, their family, and a scholarship could provide, were significantly more likely to attend college in the next four years than were students who said they would chose another option (delaying college entrance, attending a less expensive college, or getting a job). This held true even after controlling for other variables such as educational aspirations, tested achievement, influence from others, and socioeconomic status. This finding supports the contention that students who are reluctant to borrow are less likely to enroll in postsecondary education. Among the students who did enroll in college, willingness to borrow was significantly associated with attendance at a four-year college rather than a two-year college and with full-time rather than part-time attendance. This may mean that recent changes in financial aid packaging, with fewer grants and more loans, have had a impact not only on college enrollments but also on the type of college that students attend and on the proportion of students enrolling in college on a part-time basis. The results also suggest that, all else being equal, students who are knowledgeable about financial aid sources may be more likely to enroll in college than are students with less knowledge of these sources.

Attitudes Towards Borrowing and Participation in Post-secondary Education

Ruth B. Ekstrom[1]

A wide variety of factors are associated with decisions about enrollment in post-secondary education. Manski and Wise (1983) have concluded that the likelihood of application to college is most strongly associated with individual and family background factors, such as high school class rank, college admissions test scores, parental education, and parental income. However, they also found that institutional factors, such as college costs, the availability of financial aid, and distance from home affect college attendance as do peer influences, especially the proportion of an individual's high school classmates who go on to college. Similar findings, which stress the importance of student academic ability, family background, and the labor market on college choice have appeared in a synthesis of the research (Terkla and Jackson, 1984).

Relatively little attention has been given as to how the need to borrow for college may affect students' educational choices (Hansen, 1986). Nevertheless, Marchese (1986) has noted that students' attitudes about indebtedness make themselves felt in decisions such as:

- Whether or not to pursue post-secondary education;
- The type of post-secondary institution to enter;
- Once in college, a choice related to persistence and to the choice of a major;
- Upon graduation, a choice of whether to enter the work force or to pursue graduate education; and
- At the end of education, the choice of specialty and employer.

The relationship between need to borrow for education and enrollment in college has become a topic of special interest because, during the 1980s, student loans replaced grant assistance as the primary form of Federal financial aid for college students. Grants, which were 76 percent of Federal aid in 1975-76 declined to only 31 percent of Federal aid in 1988-89. (Lewis, 1989). By the fall of 1987, 24 percent of all

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[1] The author wishes to thank Tom Jerile for carrying out the data analyses for this report and Lauren Baier for her assistance with the literature review.

undergraduates had a loan to help finance their college education. (Korb et al., 1988)

The change in financial aid packaging is not limited to Federal sources. In 1980-81 grants from all sources accounted for 56 percent of student aid and loans 41 percent; by 1983-84 loans accounted for 48 percent of all aid and grants 49 percent. Moreover, the average grant per full-time student was estimated 53 percent lower (in constant dollars) in 1983-84 than in 1975-76 while the average loan increased by 123 percent (Gillespie & Carlson, 1983). This is due, in part, to the fact that since 1975 costs at the average public increased by approximately $300 per year and at the average private college by approximately $600 a year, while the average annual maximum increase in Pell grants has been approximately $60 a year (Mortensen, 1990).

In 1984 approximately 21 percent of the funds in student aid packages for full-time low-income students and 27 percent of the funds in aid packages for full-time middle-income students consisted of loans, according to an American Council on Education survey (Anderson, 1986). Loans made up a larger proportion of the aid packages for low income freshmen at private institutions (27 percent) than at public institutions (18 percent) but there was little difference in the proportion of loan funds in aid packages for middle income students at public and private institutions (28 percent and 26 percent, respectively). The typical cumulative debt upon graduation for low income students was $5,328 ($7,058 for those attending four-year colleges, $3,557 for those attending two-year colleges); the typical cumulative debt upon graduation for middle income students was $5,985 ($7,934 for those attending four-year colleges, $ 3991 for those attending two-year colleges). According to Henderson (1987) approximately 43 percent of the students completing four-year colleges in 1983-84 graduated with educational debts.

Other data (Ekstrom et al., 1991) show that the percentage of college graduates with educational debt increased from 38 percent in 1976 to 59 percent in 1984 but dropped to 48 percent of graduates in 1986. The average debt in 1976 was $2,710, increasing by 1984 to $5, 967 ($ 3,306 in 1976 dollars) and by 1986 to $6,615 ($3,486 in 1976 dollars).

A COFHE study by Morton Schapiro suggests that students from middle income families may be particularly affected by the growth in educational loans. According to a description of the findings (Chronicle of Higher Education, November 14, 1990), fewer students from families with moderate incomes are enrolling in college. This is seen by some as indicating that the high costs of some selective institutions, both public and private, may be driving away middle income students.

Previous research on the effects of financial aid has looked primarily at its relationship to persistence in undergraduate education. A meta-analysis (Murdock, 1987) of 31 studies which investigated the relationship between student persistence and the receipt of financial aid concluded that:

1. Financial aid does promote student persistence;

2. Financial aid has a stronger effect on the persistence of students in two-year colleges than on students in four-year colleges.

3. Financial aid appears to have a stronger effect on the persistence of private institution students than on public institution students; and

4. Financial aid has a stronger effect on persistence during the later years of college than on freshman year, particularly in terms of graduation probability.

The fact that financial aid is associated with persistence in college is not surprising. As Stampen and Cabera (1986) have hypothesized, financial aid reduces the difference in financial resources between economically advantaged and disadvantaged students; by filling the resource gap financial aid reduces the reasons for dropping out of college.

However, loans are a rather special form of financial aid. The student is not receiving a grant with no formal requirement to repay. Instead, the student is entering into a debt which must be repaid at a future date. Willingness to enter into debt for education is probably determined by a variety of factors, such as the perceived cost and benefits and the social and psychological environment of the individual (Stafford et al., 1984). As Mortensen (1990) has pointed out, loan attitudes can be related to economic investment theory. In this context, loans are seen as adding risks and financing costs to higher education investment and, by adding these costs, reduces the net benefits of college for students who use loans. Mortensen believes that "as the net benefit of college attendance has been decreased by the substitution of loans for grants to low income students, economically marginal individuals have chosen alternatives to collegiate study" (p. 52).

The best available evidence, based on data collected for the Federal Reserve Surveys of Consumer Finances, is that approximately 80 percent of Americans believe it is all right to borrow money to finance educational expenses (Mortensen, 1988). However, willingness to borrow for education varies by gender, race/ethnicity, family income and other background characteristics. Mortensen concluded that people from households incomes of less than $25,000 a year (1989 dollars) were much less

likely to think that borrowing to finance education was a good idea. A related 1989 survey conducted for the Council for the Advancement and Support of Education (Gallup, 1989) found that 60 percent of individuals from families with incomes over $50,000 believed that the lifetime return on a college education was worth more than it cost to attend college, but only 27 percent of individuals from families with incomes below $20,000 held such attitudes.

Willingness to enter into educational debt is may not be related to family income. Brown and her colleagues (1987) found no significant difference in the proportion of low and high income 1980-81 college freshmen taking out a loan.

Only two studies have looked at the different forms of financial aid. Using data from High School and Beyond (HS&B), Jackson (1989b) found that Blacks are more likely than Hispanics or Whites to receive financial aid offers. He also found that financial aid offers did not have different effects on college entry across racial/ethnic groups. Scholarships were the only type of financial aid to have significant effects for all three groups. Loans effects, before adjustment for college tendency (background, educational experience, educational aspirations) were significant and positive for Blacks while being insignificant and negative for Hispanics and for Whites; adjusted effects of loans were insignificant for all three groups. It is important to note, however, that financial aid, unadjusted for college tendency, explained only two to four percent of the variance in college entrance. Another study (St. John & Noell, 1989), also used the HS&B data, but reached different conclusions. These authors found that all forms of aid had a positive impact on enrollment and that all types of aid were effective in promoting access for minority students. Even when loans were the only form of aid offered, they had a positive effect on enrollment decisions for both Black and White students, although not for Hispanic students. However, the St.John and Noell study found that the impact of loans for Blacks and Whites declined from 1980 to 1982.

This paper reports the results of an exploration of the relationship between high school seniors' attitude about borrowing for education and the post-secondary education choices they make. Specifically, it compares seniors who said they would not borrow if they needed extra money for college (students who would prefer to delay college, go to a less expensive type of college, or work part-time) with seniors who would take a loan in such circumstances. The comparison involves determining: 1) whether or not they attended college; 2) if they did attend college, whether they entered a two-year or a four-year college; and 3) if they attended college full-time or part-time. It was hypothesized that seniors who were reluctant to borrow would be less likely to enter post-secondary education, to select a two-

year rather than a four-year college, and/or to attend college part-time rather than full-time. Cross-tabulations from an earlier analysis of this question (Ekstrom, 1985) indicated that Whites and students of higher socioeconomic status were more likely to select the loan option than were minority students and students of lower socioeconomic status (See Table 1).

A study by Urahn (1988) has also used this HS&B question to examine the relationship between attitudes about financing education and post-secondary attendance and choice. She found that students who chose the borrowing option had significantly higher academic ability and were more likely to be in the academic curriculum in high school. In the two years after high school, students who chose the borrowing option were more likely to attend college than not continue their education, were more likely to enter a four-year college than a two-year college, and were likely to borrow for their post-secondary education.

There are several important differences between this study and the Urahn study. First, the two studies differ in conceptual framework, with Urahn's model including parental knowledge of financial aid programs while this study is restricted to student variables. Second, the studies differ in sample size; because of the inclusion of parental knowledge and removal of subjects who lacked data on this and other indicators, Urahn's analysis is based on a sample of 1,483 students while the Ordinary Least Squares analysis in this study is based on approximately 9600 students (A secondary analysis, using Logistical regression instead of Ordinary Least Squares, is based on approximately 4600). Finally, the two studies differ in time frame; Urahn followed the students for only two years after the completion of high school (the 1984 follow-up) while the current study follows the students for four years, until 1986.

Sample

Both this study and the Urahn study use the High School and Beyond (HS&B) 1982 seniors data set. High School and Beyond is a national sample of high school students. Sampling was done first at the school level, then within schools. The data were then weighted to provide a representative national sample. Detailed information about the HS&B sample can be found in Frankel, Kohnke, Buonanno, & Tourangeau (1981). The subjects are 9625 students who were high school seniors in the spring of 1982 and who indicated, at the time of the 1984 follow-up, that they had received their high school diploma. Thus, it is likely that almost all of the students in this sample completed high school in 1982. Data from both the 1984 follow-up and a second follow-up in 1986 are used to determine if these students participated in post-secondary education and, if so, the nature of that participation.

Although the sample of students in this study is less restricted than in the Urahn study, it is more restricted than those reported in HS&B follow-up studies such as Eagle and Carroll (1988), both because this analysis required evidence that the student had obtained a high school diploma and because it required that the student had responded to the question asking what they would do if they wanted to attend college but the costs were more than they, their family and scholarship funds could provide. Each of these restrictions removed from the sample a number of students who did not go on to college.

A comparison of the differences between the total HS&B sample and the sample used in the OLS analysis in this study is shown in Table 2. As can be seen, this sample, has fewer male students and more white students than the total HS&B sample. The students in this sample are have slightly higher socioeconomic status. Finally, the students in this sample have higher educational aspirations, as evidenced by their belief that they have the ability to finish college, their expectations to attend college, and their feelings that they would not be satisfied without attending college. All of these differences are statistically significant at or beyond the .05 level.

Thus, while national follow-ups of the 1982 HS&B senior cohort indicate that 66 percent had entered post-secondary education by 1986, the Ordinary Least Squares (OLS) for this study found about 79 percent of the sample had some college attendance by 1986. This split made it desirable to use logistic regression as well as ordinary least squares regression.

Method

The analysis has two parts: 1) a descriptive analysis which compares the characteristics and questionnaire responses of the 1982 high school seniors who indicated they would be willing to borrow to meet educational expenses beyond what they, their family, and scholarship funds could provide, with seniors who indicated that they would not borrow money under these circumstances; and 2) a relational analysis to identify the variables significantly associated with college entrance, type of college attended, and type of enrollment to see if attitude about borrowing is significant after controlling for other variables such as student background, high school achievement, and educational aspirations.

The conceptual model is shown in Figure 1. As can be seen, the background variables (sex, race/ethnicity, and SES; it should be noted that the HS&B SES variable is a composite which includes both parental education and parental income); locus of control (the extent to which the students feel they can control their futures); tested achievement in grade 12; academic self-concept; and press for further education from parents, friends, teachers

and guidance counselors affect educational aspirations; all of these, as well as knowledge about college (how to apply, costs and financial aid sources); the importance of various factors such as college reputation, courses, location, costs, and financial aid in college choice; and attitude toward educational borrowing affect post-secondary educational outcomes.

To provide data reduction that was desirable for the OLS analysis, some of the explanatory variables were factor analyzed. Knowledge about college was reduced to two variables: 1) knowledge of costs, and 2) knowledge of financial aid sources. These were also used in the logistic analysis. Two major factors related to college choice characteristics were found: 1) importance of college reputation and courses available, and 2) importance of college costs, availability of financial aid, and (somewhat weakly) location near home. In the logistic analysis the five college choice variables are included separately. The composites were created by averaging together the components identified in the factor analysis. Since all these components are on identical scales, no recoding was necessary.

For the OLS analysis composite variables were also created for each source of external press for the student to attend college (from parents, friends, teachers, and guidance counselors) by multiplying the aspirations (college or no college) each of these individuals had for the student by the amount of influence the student reports each of these having on their decision about post-secondary education. The resulting scale ranges from -3 (the person does not want the student to go to college and has strong influence) to + 3 (the person wants the student to go to college and has strong influence). Because the determinants of teacher and guidance counselor press for college were very similar, the press from these two sources was combined for the regression analysis. In the logistic analysis, it was necessary to eliminate the variables showing whether or not the students believed that their friends, teachers, and guidance counselor thought they should attend college after high school because of the large number of cases with missing data on these variables. However, the influence variables are included in the logistic analysis.

In the factor analysis it was impossible to separate academic self-concept from the other educational aspiration variables. An educational aspirations composite was created from the components on this factor by standardizing each component by creating z scores and then averaging the normalized components to create the composite. This was used in both the OLS and logistic analyses.

The above variables were used in the OLS and logistic regression analyses along with the background variables (sex, race/ethnicity, and SES), locus of control, tested achievement at

the end of high school, and preference for borrowing if needing additional money for post-secondary education.

Some would say that OLS is not ideal for this type of research since the conceptual model is somewhat recursive and since OLS may misbehave when use with a dichotomous outcome. Jackson (1989b) has argued that neither of these seriously limit the use of OLS in college choice studies and that OLS is easier to interpret than other methods such as maximum-likelihood structural-equation analysis or maximum-likelihood logit analysis. Others would express concern over the use of OLS when the split in the college attendance outcome variable is somewhat extreme. However, in comparing methodologies for studies of college retention, Dey (1991) concluded that " despite the statistical advantages offered by logistic and probit analysis, there is little practical difference between either of these techniques and more traditional linear regression." An exception is when the variables are not moderately split, that is the split is more extreme than .75/.25 (see Cleary & Angel, 1984). Since the split in the college attendance outcome variable for the OLS analysis was slightly more extreme than .75/.25, logistical regression were also done to allow comparison of results and to permit identification of differences that might be attributed to methodology.

However, the split was even more extreme in the logistic analysis sample, since cases with any missing data had to be eliminated. A preliminary inspection showed that only about 2500 cases had complete data. Even after certain variables with large amounts of missing data were excluded from the logistic analysis the resulting sample of 4600 showed 85 percent of the students had some college attendance by 1986. Still another limitation of the logistic regressions was that the amount of variance in college attendance that could be explained by the model declined.

Descriptive Analysis

This study is based in large part on one question in the HS&B senior questionnaire. That question and the percentage of students choosing each response, by student characteristics (sex, race/ethnicity, socioeconomic status, and type of college planned) is shown in Table 1. As can be seen, females, whites, students of higher socioeconomic status, and students who had plans to attend a four-year college were more likely to say they would get a loan when responding to this question than were males, minorities, low SES students, and students who had plans to attend two-year colleges.

The next step was to see if students who said they would prefer to borrow differ significantly on the major outcome variables (from students who said they would prefer other options or who did not know what they would do. These outcome variables

are: any college by 1986, attending college in 1984, attending college in 1986, type of college (two-year or four-year) attended in 1984 and in 1986, and type of enrollment (full-time or part-time) in 1984 and 1984. These t-tests are shown in Table 3. All of the outcome variables show significant differences between students who said they would borrow and those who chose other options. Thus, a preference for borrowing, if one is faced with the need for additional funds for college, appears to be related to college attendance outcomes.

Relational Analysis

Because of the complex inter-relations among the variables in this study, especially the relationships between socioeconomic status, educational aspirations, tested achievement, knowledge of college costs, and preference for borrowing, regression analysis was needed. Before examining the variables associated with the outcome measures, the variables associated with the preference for borrowing explanatory variable itself were investigated.

Relationship of Concurrent Explanatory Variables to Attitude about Borrowing to Meet College Costs. An OLD regression analysis was run to examine the relationship between preference for borrowing for college and other explanatory variables assessed at the same time (senior year in high school). The results are shown in Table 4. It is important to note that these variables explain only three percent of the variance in this response. The variables showing a statistically significant association with preference for borrowing are: 1) knowledge of college costs, 2) high socioeconomic status, 3) high educational aspirations, 4) placing high importance on institutional reputation and the courses available when choosing a college, 5) not knowing about sources of financial aid, 6) high tested achievement at the end of high school, 7) not placing high importance on cost and the availability of financial aid when choosing a college, and 8) strong influence from parents to attend college. The logistic analysis shows very similar results, but only two percent of the variance is explained (See Table 4a). In these results, a preference for borrowing is most strongly associated with two college choice variables, importance of financial aid and importance of cost; it is also strongly associated with knowledge of college costs and socioeconomic status.

Relationship of Explanatory Variables to College Attendance. The relationship between the entire group of explanatory variables, including preference for borrowing, and the major outcome variable, enrollment in college at any time between 1982 and 1986, were examined next. The regressions are shown in Tables 5 and 5a.

In the OLS analysis the full model explained 37 percent of the variance in college enrollment during the four years after

high school graduation. The variables most strongly influencing college attendance were educational aspirations, tested achievement, press from friends to attend college, and socioeconomic status. All else being equal, Blacks are more likely to attend college than Whites and males are less likely to attend college than females. Parental press for college and knowledge of financial aid sources are also significantly and positively associated with college attendance, while placing high importance on college costs, the availability of financial aid and a college location near home is a negative influence. After controlling for all of these things, students who indicated a willingness to borrow if additional funds were to be needed for college were significantly more likely to have attended college than were students who chose other options.

The logistic regression shows very similar results although explaining only 24 percent of the variance. The variables most strongly influencing college attendance were educational aspirations, tested achievement, and socioeconomic status; sex and parental press for college also continue to be statistically significant, as does preference for borrowing. Knowledge of financial aid, which was statistically significant in the OLS analysis, narrowly misses such significance in the logistic analysis, perhaps because of methodology differences or because of the more restricted nature of the logistical analysis sample.

Relationship of Explanatory Variables to College Choices of Attenders. For those students who attended college during the 1982 to 1986 period, two college choice decisions were examined. These are: 1) whether the student attended four-year colleges only (vs. some or all attendance at two-year colleges) and (2) whether the student attended full-time only (vs. some or all attendance on a part-time basis). The regression analyses are shown in Tables 6, 6a, 7 and 7a.

In the OLS analysis the full model explains 26 percent of the variance in the type of college attended. Table 6 shows that the major variables associated with attendance at a four-year college (as contrasted with any attendance at a two-year college) are educational aspirations and tested achievement. However, most of the other variables in this model are also significantly related to this outcome. All else being equal, students are more likely to attend four-year colleges than two-year colleges if they come from high socioeconomic status families, if they are Black, if they are male, and if they have an internalized locus of control. Press from friends and from parents to attend college also is significantly related to enrollment in a four-year college, as is knowledge of college costs and knowledge of financial aid sources. Students are more likely to attend a two-year than a four-year college if they place high importance on college costs, the availability of financial aid, and a location near home and if their college plan have been strongly influenced

by high school teachers and guidance counselors. Even after controlling for all of the other variables in the full model, willingness to borrow for college costs is significantly associated with attendance at a four-year college.

Using logistic regression, the R^2 dropped to .21 (See Table 6a). The variables most strongly associated with attending a four-year college, rather than a two-year college, are educational aspirations, tested achievement, socioeconomic status, and two college choice variables, the importance of attending a college near home and the importance of the college's reputation. Other statistically significant variables include being Black (rather than White), having parents who believe the student should attend college after high school, being influenced by teachers in making after high school plans, knowledge of financial aid sources, and preference for borrowing. Three variables which were statistically significant in the OLS analysis did not reach significance in this analysis; they are sex, locus of control, and knowledge of college costs.

The OLS analysis explains only eight percent of the variance in the full-time attendance outcome (Table 7), possibly because type of college attended was not included in the equation (part-time attendance is much more common in two-year than in four-year colleges). The three variables most strongly associated with full-time attendance are educational aspirations, tested achievement, and willingness to borrow. All else being equal, Black students and males are more likely to attend full-time. Full-time attendance is also significantly related to parental and friends' press for college and to knowledge about financial aid sources. Part-time attendance, like attendance at a two-year college, is related to press for college from teachers and guidance counselors and to placing importance on costs, aid, and location when choosing a college.

As Table 7a shows, the logistic analysis explains slightly more of the variance in full-time attendance (R^2 = .11). The variables most strongly associated with full-time attendance are educational aspirations, tested achievement, and the importance of attending a college located near home. Other statistically significant explanatory variables are the importance of college reputation, the importance of financial aid, socioeconomic status, parents who wished that the student would attend college after high school, the amount of parent influence on post high school plans, and knowledge of financial aid sources, as well as preference for borrowing.

Discussion

High school seniors who said they would choose to borrow, when asked what they would do if college costs were $1500 more

than they, their family, and scholarships could provide, were significantly more likely to attend college in the next four years than were students who choose the other options (delaying college entrance, attending a less expensive college, or getting a job). This held true even after controlling for other variables such as educational aspirations, tested achievement, influence from others, and socioeconomic status. This finding supports the contention that students' willingness to borrow affects their participation in post-secondary education.

Students who enrolled in college were significantly more likely to enroll in a four-year college than a two-year college if they chose the borrowing option; they were also significantly more likely to attend college full-time than part-time. These findings support the contention that borrowing attitudes affect not only the enrollment decision but also affect college choices.

Students who viewed borrowing as an unattractive option were less likely to enroll in college and, if they did enter college, were more likely to choose a two-year than a four-year college and were more likely to enroll part-time rather than full-time.

These results are of considerable importance for policy makers. During the 1980s there was a move away from grants for students and toward loans, especially by the Federal government. The findings of this study suggest that there is a group of students who are averse to borrowing and who may have been affected by this policy change. They are less likely to attend college if the financial aid they need requires a loan than if a grant in aid is available. If they do attend college, these loan-avoiding students tend to make choices which decrease the probability that they will graduate from college, such as initially enrolling in a two-year college or attending college part-time.

Unfortunately, the results of this study did not explain much about the relationship between attitudes about borrowing and other explanatory variables. There appears to be some relationship with college choice variables, such as importance of financial aid, importance of cost, and importance of attending a school near home, as well as with knowledge of college costs and with socioeconomic status. Other research (Steelman & Powell, 1991) has shown that parents' willingness to pay for college is related to whether or not they received similar financial support. If attitudes about providing money for college show continuity across generations, perhaps willingness or unwillingness to borrow for college is also learned in the family.

The policy shift from grants to loans as the major form of student financial aid has been blamed for the diminished participation of minority students in higher education. However,

the regressions which examined variables associated with attitude toward borrowing did not show any significant effects for race/ethnicity after variables such as knowledge about costs, educational aspirations, and college choice factors were added to the model.

The change in financial aid packaging, away from grants and toward loans, appears to be having a impact on college enrollments, working through students' attitudes about borrowing. This suggests that, especially for low income students, financial aid should be packaged to include grants and work opportunities with loans. Without such a policy, unwillingness to borrow may cause students to end their education with high school or to defer it until they have passed beyond the important window of opportunity which Kempner and Kinnick (1990) have found associated with higher rates of completing the baccalaureate. The need to implement such a policy change is underscored by Mortensen's data which indicate that low-income students have experienced the greatest growth in indebtedness during the past five years and, after leaving college, it is these low-income students who are most likely to default on their loans.

The results of this study also suggest that reluctance to borrow may lead some students to attend two-year colleges, rather than four-year colleges, perhaps because of the lower costs at two-year institutions. This would be in line with Mortensen's finding (1990) that some low-income students appear to have been moving down the price ladder of higher education in order to attend college at a more reasonable cost. While many students do make the transition from two-year to four-year college successfully and obtain the baccalaureate, transfer is still can be a major obstacle. Students need to understand the trade-offs that may be involved if they decide to enroll in two-year colleges in order to have lower levels of debt.

Methodology appears to have little impact on the findings of this study. Regardless of whether OLS or logistical regression analysis was used, preference for borrowing was significantly related to college enrollment, attending a four-year college, and full-time attendance. The logistic regressions did highlight the importance of the role that college location plays in student decisions about enrollment, type of college, and full-time attendance. Students who consider it important to attend a college located near their homes are less likely to enroll in college than students for whom this is not important and, if they do enroll, are more likely to enter a two-year college than a four-year college and more likely to attend college part-time. This had been masked in the OLS analysis by the inclusion of location in the college choice composite variable that also included the importance of cost and the availability of financial aid. The effect of press for college from friends, which appeared to be important in the OLS analysis, could not be

adequately determined in the logistical analysis because of the large amount of missing data on the question asking what the students' friends believed they should do after high school. The amount of influence from friends, when not combined with information about whether or not this influence was directed toward attending college, was not related to the outcome measures.

While the main goal of this study was to determine if attitudes about borrowing had an effect on enrollment in higher education, the results also provide some valuable information about the role that knowledge of aid sources plays in post-secondary education decisions. All else being equal, students who are knowledgeable about sources of financial aid are slightly more likely to enroll in college than students with less knowledge of aid sources. In addition students who have more knowledge of financial aid sources and of college costs are more likely to attend four-year colleges than in two-year colleges and more likely to attend college full-time than part-time. This suggests that the better informed students use their financial aid knowledge to obtain lower cost full-time education in four-year institutions.

Similar findings have been reported elsewhere. A recent report by the General Accounting Office (1990) concluded that students and their parents have limited knowledge concerning the cost of attending different kinds of schools and the availability of financial aid. The GAO analysis found that students who, as 1980 high school sophomores, were aware of Pell Grants and Stafford Loans were more likely to enroll in post-secondary education in 1982; this relationship was strongest for low-income students. Higgins (1984) found that students from low-income families and who had a knowledge of Pell Grants had an eight percent higher college attendance rate than similar students without such knowledge. These findings argue strongly for improved services to students and their families to inform them of the available financial aid options.

Table 1

Responses of 1982 High School Seniors to the Question "Assume you want to go to college but it will cost $1500 more than you, your family, and scholarship funds can provide. Which would you do?"

Percentages based on weighted sample N's

	Get a loan	Get a part-time job	Go to less expensive college	Go later	Don't know
Total	41	28	9	5	16
Sex: Male	39	27	9	6	19
Female	43	29	10	5	14
Race/Ethnicity:					
White	42	28	9	5	16
Black	37	29	13	6	14
Mexican-Amer.	34	32	7	6	20
Puerto Rican	32	32	15	6	15
SES: Low	33	32	9	6	20
Middle	42	28	9	5	16
High	48	26	10	4	12
College Plans:					
4-Yr. College	53	26	10	3	8
2-Yr. Academic	43	29	14	5	9
2-Yr. Voc-Tech	43	30	10	5	13

Table 2

Comparison of Total HS&B Sample and
the Samples Used in OLS and Logist Analyses for this Study

	HS&B (n= 14,825)	OLS (n=9625)	Logist (n=4638)
% Male	49.6	46.8	43.7
% White	58.2	63.3	68.0
SES Composite Mean	-0.0352	-0.0042	0.2287
% who believe they have the ability to complete college	52.0	57.6	71.2
% who expect to go to college	61.9	69.5	90.4
% who say they won't be satisfied if they don't go to college	50.8	58.6	87.2
% who say they plan to attend college at some time in the future	84.2	85.9	100.0
% who enrolled in college by 1986	66.0	79.0	85.0

Table 3

Differences in Postsecondary Education Outcomes between Students Who Would and Would Not Choose to Borrow to Meet College Costs

(Wtd. N)	Borrow (n=3531)		Not Borrow (n=3682)		t-statistic
	Mean	S.D.	Mean	S.D.	
Attended by 84	0.76	0.43	0.64	0.48	10.99***
Attended by 86	0.82	0.38	0.73	0.45	9.90***
College Type 84	2.51	0.73	2.39	0.74	6.14***
College Type 86	2.60	0.68	2.48	0.74	5.90***
Full Time 84	0.88	0.33	0.82	0.38	6.05***
Full Time 86	0.83	0.38	0.76	0.43	5.85***

* = significant at the .05 level;
** = significant at the .01 level;
*** = significant at the .001 level.

Table 4

OLS Regression - Variables Associated with Preferring to Borrow if Needing $1500 More for College

	Standardized Regression Wts.	Raw Regression Weights	T-Statistic
Sex (Male)	-.01	-.01	-0.01
SES	.05	.04	4.23
Black (vs. White)	.01	.02	0.68
Hispanic (vs. White)	.01	.02	0.94
Tested Achievement	.03	.00	2.30
Locus of Control	.01	.01	0.56
Educational Aspirations	.06	.05	3.70
Parental Press	.03	.01	2.06
Friends' Press	-.01	-.00	-0.51
Teach. & Couns. Press	-.01	-.00	-0.51
Knowledge of Costs	.07	.03	6.46
Knowledge of Aid	-.03	-.04	-2.74
Impt. Cost, Aid & Loc.	-.02	-.02	-2.13
Impt. Courses & Rep.	.03	.03	2.83

R^2 = .03

Table 4a

Logistic Regression - Variables Associated with Preferring to Borrow if Needing $1500 More for College

	Beta	Chi-Square	p
Sex (Male)	-0.06	2.33	.127
SES	0.17	11.91	.001
Black	-0.11	1.34	.247
Hispanic	-0.09	1.28	.258
Tested Achievement	0.00	0.23	.633
Locus of Control	0.06	0.99	.321
Educ. Aspirations	0.32	8.58	.003
Parents after HS	-0.13	1.16	.282
Parents Influence	0.24	3.22	.073
Friends Influence	0.04	0.34	.558
Teacher Influence	-0.10	1.89	.169
Guid. C. Influence	0.18	6.54	.010
Knowledge of Costs	0.12	13.79	.000
Knowledge of Aid	-0.12	1.68	.195
Importance Reputa	0.08	1.83	.177
Importance Courses	-0.03	0.17	.681
Importance Location	-0.14	11.30	.001
Importance Cost	-0.29	26.24	.000
Importance Aid	0.31	36.24	.000

R^2 = .02

Table 5

OLS Regression - Variables Associated with College Attendance

	Standardized Regressions Wts.	Raw Regression Weights	T-Statistic
Sex (Male)	-.02	-.02	-2.33
SES	.08	.05	8.20
Black (vs. White)	.05	.07	5.49
Hispanic (vs. White)	-.00	-.00	-0.24
Tested Achievement	.14	.01	12.10
Locus of Control	.00	.00	0.11
Educational Aspir.	.39	.29	29.75
Parental Press	.03	.01	2.85
Friends' Press	.11	.03	9.07
Teach.& Couns. Press	-.02	-.01	-1.92
Knowledge of Costs	-.00	-.00	-0.11
Knowledge of Aid	.02	.02	2.03
Imp. of Cost, Aid & Loc.	-.01	-.00	-0.51
Imp. of Rep. & Courses	-.02	-.02	-1.98
Borrow	.04	.03	4.51

R^2 = .37

Table 5a

Logistic Regression - College Attendance

	Beta	Chi-Square	p
Sex (Male)	-0.31	9.23	.002
SES	0.43	26.60	.000
Black	0.07	0.20	.653
Hispanic	0.24	3.57	.059
Tested Achievement	0.05	47.14	.000
Locus of Control	0.08	0.90	.342
Educ. Aspirations	2.21	231.92	.000
Parents after HS	0.29	4.62	.032
Parent Influence	-0.09	0.21	.650
Friends Influence	-0.13	0.99	.320
Teacher Influence	0.25	5.04	.025
Guid C Influence	0.04	0.10	.748
Knowledge of Costs	-0.00	0.01	.941
Knowledge of Aid	0.26	3.63	.057
Importance Reputa	0.07	0.51	.473
Importance Courses	0.05	0.21	.645
Importance Location	-0.18	7.83	.005
Importance Cost	-0.12	1.62	.203
Importance Aid	0.03	0.09	.765
Borrow	0.20	4.07	.044

R^2 = .24

Table 6

OLS Regression - Enrollment in a Four-Year College

	Standardized Regression Wts.	Raw Regression Weights	T-Statistic
Sex (Male)	.04	.04	3.96
SES	.08	.05	6.30
Black (vs. White)	.06	.09	4.84
Hispanic (vs. White)	.00	.01	0.39
Tested Achievement	.20	.01	14.44
Locus of Control	.03	.02	2.53
Educational Aspir.	.22	.22	15.34
Parental Press	.06	.02	3.76
Friends' Press	.07	.02	5.10
Teach.& Couns. Press	-.06	-.02	-4.33
Knowledge of Costs	.08	.04	7.39
Knowledge of Aid	.03	.04	2.65
Imp. of Cost, Aid & Loc	-.08	-.07	-6.50
Imp. of Rep. & Courses	.00	.00	0.23
Borrow	.04	.04	3.48

R^2 = .26

Table 6a

Logistic Regression - Enrollment in a Four-Year College

	Beta	Chi-Square	p
Sex (Male)	0.08	0.79	.375
SES	0.32	22.52	.000
Black	0.53	14.48	.000
Hispanic	-0.04	0.11	.744
Tested Achievement	0.07	97.13	.000
Locus of Control	0.05	0.41	.522
Educ. Aspirations	2.03	145.08	.000
Parents after HS	0.29	4.62	.032
Parent Influence	-0.06	0.13	.721
Friends Influence	-0.04	0.13	.716
Teacher Influence	0.19	3.85	.050
Guid C Influence	-0.12	1.64	.201
Knowledge of Costs	0.06	1.67	.193
Knowledge of Aid	0.29	5.04	.025
Importance Reputa	0.45	32.51	.000
Importance Courses	-0.14	2.33	.127
Importance Location	-0.52	98.15	.000
Importance Cost	0.09	1.36	.244
Importance Aid	0.11	2.66	.102
Borrow	0.17	4.19	.041

R^2 = .21

Table 7

OLS Regression - Full-Time Attendance

	Standardized Regression Wts.	Raw Regression Weights	T-Statistic
Sex (Male)	.03	.02	2.56
SES	.02	.01	1.36
Black (vs. White)	.06	.08	4.64
Hispanic (vs. White)	-.02	-.02	-1.31
Tested Achievement	.10	.00	6.51
Locus of Control	.02	.01	1.31
Educational Aspir.	.16	.13	9.67
Parental Press	.04	.01	2.60
Friends' Press	.03	.01	2.18
Teach.& Couns. Pres	-.05	-.02	-3.27
Knowledge of Costs	.01	.00	0.78
Knowledge of Aid	.02	.03	2.00
Imp. of Cost, Aid & Loc.	-.03	-.03	-2.61
Imp. of Rep. & Courses	-.01	-.01	-0.84
Borrow	.06	.05	5.03

R^2 = .08

Table 7a

Logistic Regression - Full-Time Attendance

	Beta	Chi-Square	p
Sex (Male)	0.04	0.40	.525
SES	0.14	5.51	.019
Black	0.20	2.82	.093
Hispanic	-0.18	3.32	.068
Tested Achievement	0.05	62.08	.000
Locus of Control	0.07	0.96	.328
Educ. Aspirations	1.49	92.99	.000
Parents after HS	0.49	6.93	.001
Parent Influence	-0.33	3.83	.050
Friends Influence	0.18	3.75	.053
Teacher Influence	0.07	0.65	.421
Guid C Influence	-0.02	0.09	.767
Knowledge of Costs	0.05	1.57	.210
Knowledge of Aid	0.24	4.10	.043
Importance Reputa	0.21	8.81	.003
Importance Courses	-0.05	0.30	.582
Importance Location	-0.25	26.66	.000
Importance Cost	-0.07	1.21	.271
Importance Aid	0.17	8.01	.005
Borrow	0.21	7.93	.005

R^2 = .11

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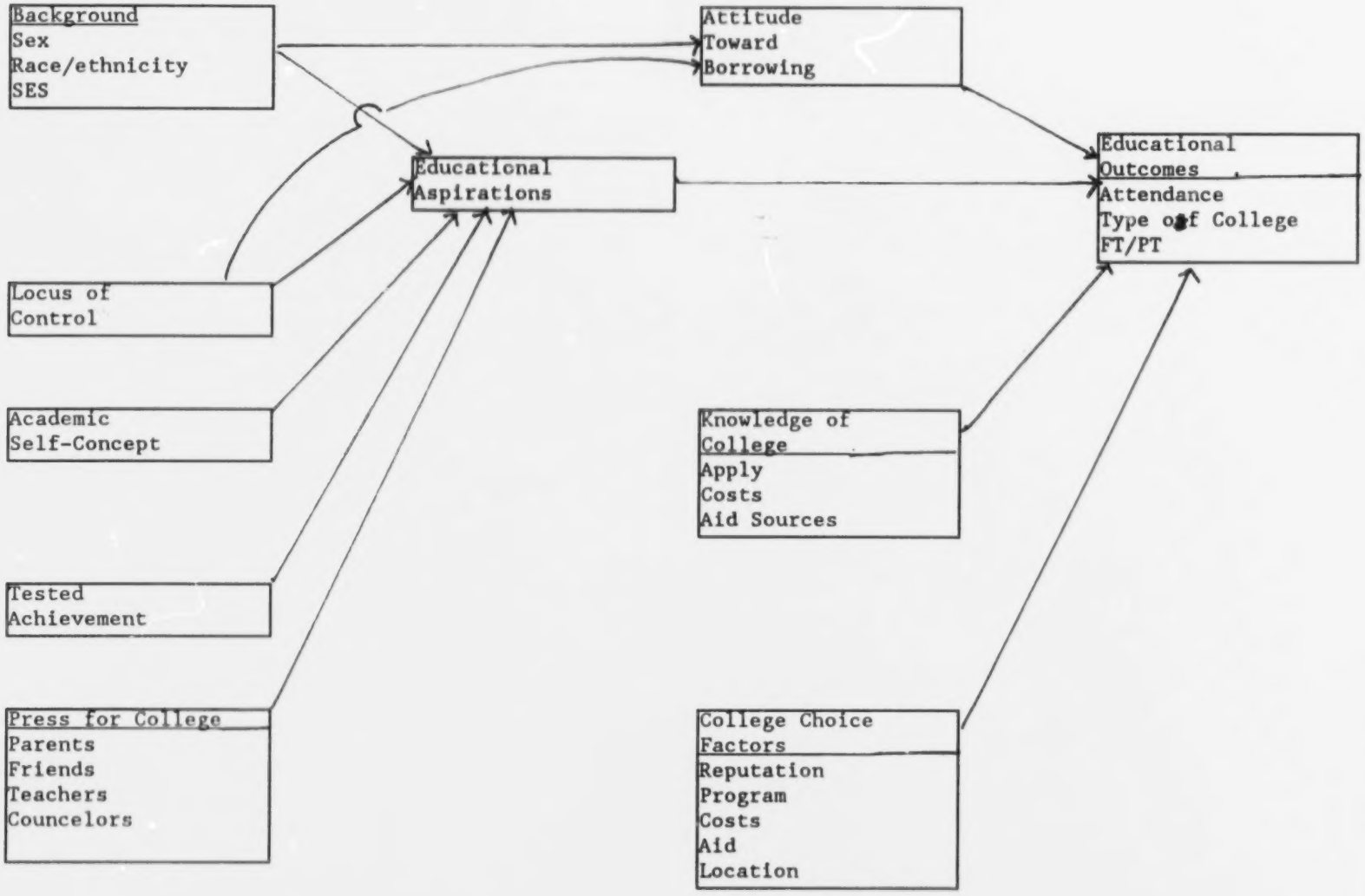

Figure 1 - Conceptual Model of Variables Affecting Post-Secondary Educational Outcomes